DEPARTMENT OF ENVIRONMENTAL CONSERVATION

AIR QUALITY CONSTRUCTION PERMIT

Permit No. 0123-AC008 Final Issue Date: October 23, 2001
Application No. X118

The Department of Environmental Conservation, under the authority of AS 46.14 and 18 AAC 50, issues a construction permit to the Permittee, **Union Oil Company of California**, for the **Solar Centaur 40-T4700S Gas-Fired Turbine Installation and Increased Hydrogen Sulfide Concentration of Fuel Gas Project** at the **King Salmon Platform**.

This permit satisfies the obligation of the owner and operator to obtain a construction permit as set out in AS 46.14.130(a).

As required by AS 46.14.120(c), the Permittee shall comply with the terms and conditions of this construction permit.

As set out in 18 AAC 50.340(i), this construction permit revises terms and conditions of Air Quality Control Permit to Operate No. 9423-AA005, dated May 18, 1995.

[18 AAC 50.320(b), 1/18/97]

_____

John F. Kuterbach, Manager
Air Permits Program

Table of Contents

List of Abbreviations Used in this Permit

AAC .....Alaska Administrative Code
ADEC.....Alaska Department of Environmental Conservation
AS.....Alaska Statutes
ASTM.....American Society of Testing and Materials
C.F.R. .....Code of Federal Regulations
CO ……...Carbon Monoxide
COMS .....Continuous Opacity Monitoring System
dscf.....Dry standard cubic feet
EPA .....US Environmental Protection Agency
gr/dscf.....grain per dry standard cubic feet (1 pound = 7000 grains)
GPH.....gallons per hour
HAPS.....Hazardous Air Pollutants [hazardous air contaminants as defined in AS 46.14.990(14)]
H_2S……...Hydrogen Sulfide
ID.....Source Identification Number
MACT .....Maximum Achievable Control Technology
Mlb .....thousand pounds
MM……Million
NAICS .....North American Industry Classification System
NESHAPs.....Federal National Emission Standards for Hazardous Air Pollutants [as defined in 40 C.F.R. 61]
NSPS.....Federal New Source Performance Standards [as defined in 40 C.F.R. 60]
NO_x…….. ....Oxides of Nitrogen
PPM.....Parts per million
PS .....Performance specification
PSD .....Prevention of Significant Deterioration
RM.....Reference Method
SIC.....Standard Industrial Classification
SO_2.....Sulfur dioxide
TPH .....Tons per hour
TPY .....Tons per year
VOC .....volatile organic compound [as defined in 18 AAC 50.990(103)]
Wt%.....weight percent

Section 1. Identification

Names and Addresses

Permittee:	Union Oil Company of California 909 West 9th Avenue, P.O. Box 196247 Anchorage, Alaska 99519-6247
Facility:	King Salmon Platform
Location:	60° 49’ 50” N, 151° 36’ 00” W
Physical Address:	Upper Cook Inlet, Alaska
Owner:	Union Oil Company of California Forest Oil Corporation
Operator:	Union Oil Company of California 900 East Benson Blvd., P.O. Box 196612 Anchorage, Alaska 99519-6612
Permittee’s Responsible Official	Martin T. Morell, Union Oil Company of California
Designated Agent:	CT Corporation 801 West 10th Street, Suite 300 Juneau, Alaska 99801
Facility and Building Contact:	Mark Atkins, Foreman King Salmon Platform Upper Cook Inlet, Alaska (907) 776-6692
Fee Contact:	Janet Bounds, Union Oil Company of California P.O. Box 196247 Anchorage, Alaska 99519-6247

SIC Code of the Facility: Crude Petroleum and Natural Gas Production; SIC Code 1311

NAICS Code: 211111

[18 AAC 50.320(a), 1/18/97]

Section 2. Emission Information and Classification

Emissions of Regulated Air Contaminants, as provided in Permittee's application:

Oxides of Nitrogen (NOx), Sulfur Dioxide (SO_2), Carbon Monoxide (CO), Particulate Matter, and Volatile Organic Compounds (VOC).

Construction Permit Classifications:

Note: Facility Classifications are described under 18 AAC 50.300(b) through (g), modifications are described under 18 AAC 50.300(h), and owner requested limits are described under 305(a)(1) through (4).

The Solar Centaur 40-T4700S Gas-Fired Turbine Installation and Increased Hydrogen Sulfide Concentration of Fuel Gas Project requires a construction permit based on:

a. The facility classified as:

   i. an Ambient Air Quality Facility under 18 AAC 50.300(b)(2), as the facility contains sources with a rated capacity of 100 MM Btu/hr or more.

   ii. a Prevention of Significant Deterioration (PSD) Major Facility under 18 AAC 50.300(c)(1), as the facility has a potential to emit more than 250 tons per year of NO_X and CO.

b. The project classified as a modification listed in 18 AAC 50.300(h)(2), as there will be an increase in actual emissions, and

c. Owner requested limits to avoid classification as a PSD significant modification under 18 AAC 50.300(h)(3), as provided by 18 AAC 50.305(a)(4).

d. The Permittee has also requested that existing permit conditions be rescinded under 18AAC50.305(a)(3).

[18 AAC 50.320(a)(2), 1/18/97]

Section 3. Permit Continuity

1. Except as revised or rescinded herein or as superseded by an Air Quality Permit issued under AS 46.14.170, the Permittee shall comply with terms and conditions of Air Quality Control Permit to Operate No. 9423-AA005, dated May 18, 1995.

2. If permit terms and conditions listed in this permit conflict with those of Permit No. 9423-AA005, the Permittee shall comply with terms and conditions listed herein.

3. The following permit conditions from Air Quality Control Permit To Operate No. 9423-AA005, issued May 18, 1995 are rescinded:

Condition 13: Permittee shall conduct an ambient air model screening analysis when the H_2S content of the fuel gas to the Solar Centaur turbine (Source No. 5) exceeds 200 PPM in order to demonstrate compliance with the standards and increments set out in 18 AAC 50.020(b)(2)(B). Baseline concentrations originally set out in the Air Quality Control Permit to Operate, No. 8423-AA008. Results of the air model screening analysis shall be submitted to the Department's Air Quality Management Office in Anchorage within 90 days of the exceedance.

Condition 16: Permittee shall report as an excess emission in the quarterly Facility Operating Report of Exhibit D all incidents for which the H_2S in the fuel gas to be burned in the equipment on the platform exceeds 250 ppm and provide documentation for the cause of elevated H_2S concentration.

4. The following permit exhibits from Air Quality Control permit to Operate No. 9423-AA005, issued May 18, 1995 are revised:

Exhibit C: Rescind the following requirement: Fuel Use—Permittee shall install, operate and maintain in good working order a continuous system for recording and monitoring all fuel consumption for each Unit or Group.

Exhibit C Fuel Gas Burned—Sulfur Content requirement: The following ASTM methods are applicable: ASTM D 1072-80, ASTM D 4084-82, ASTM D 3246-81, as incorporated by reference in 40 CFR 60, Subpart A and GG. The following ASTM and Gas Producer Association methods ASTM D4810-88, ASTM D 4913-89 and GPA Method 2377-86 are applicable as authorized October 3, 2001 in the U.S. Environmental Protection Agency's approval of the Permittee's Custom Fuel Monitoring Schedule.

Exhibit D: Rescind Item 2: Fuel Consumption—Natural gas and Diesel fuel. – <u>For each piece or group of equipment[1], indicate the type of fuel and the quantity burned per month in the appropriate units: gallons or MMft^3. Origin of fuel gas, K-20, production gas, or blended</u>.

Revise Item 3: Fuel Quality to read "Date and sulfur content as H_2S in accordance with Exhibit C."

Section 4. Source Inventory and Description

The source listed below has specific monitoring, record keeping, or reporting conditions in this construction permit. The source description and rating are given for identification purposes only. The Source Name used below is the same as was used by the Ruston TB-5000 that is being replaced. The total facility equipment inventory can be seen in Permit No. 9423-AA005, dated May 18, 1995.

Table 1: Source Inventory

ID	Source Name	Source Description	Fuel	Nominal ISO Rating/Size
Group I Gas Fired Turbine				
L-PM-1545	ESP Generator	Solar Centaur 40-T4700S	Natural Gas	3,320 kW
L-H-4000	Drill Rig Heater	Arcotherm EC70	Diesel	380,000 Btu/hr
L-H-4010	Drill Rig Heater	Arcotherm EC70	Diesel	380,000 Btu/hr

Section 5. Ambient Air Quality Standards and Maximum Allowable Ambient Concentrations

5. General Description. This permit contains terms and conditions to ensure that allowable emissions from the facility and associated growth will not cause an ambient concentration that exceeds the concentrations established in Table 6 of 18 AAC 50.310(d)(2) at any location that does not or would not meet the ambient air quality standard or maximum allowable ambient concentration.

6. Authorization and Notification Requirements. The Permittee shall modify and operate the facility in accordance with the construction permit application and application supplements listed in Section 16, as may be currently applicable. This permit authorizes the Permittee to:

6.1 replace Ruston TB 5200 gas-fired turbine, Tag No. L-PM-1545 (in the Title V application) and also listed as Source Number ID 6 (in Exhibit A of Permit to Operate No. 9423-AA005), with a Solar Centaur 40-T4700S gas-fired turbine ISO rated at 3,320 kW; and

6.2 increase the H_2S content of the fuel gas to 2000 PPM.

7. Notwithstanding the regulations set forth in 18 AAC 50.300(h), the Permittee shall notify the Department, in accordance with the following conditions, within 7 days after:

7.1 installing a stationary emission source at the facility that is not listed in Exhibit A of Permit to Operate No. 9423-AA005; or

7.2 making a physical or operational change to a source listed in Exhibit A of Permit to Operate No. 9423-AA005 that would cause a net increase in the emissions of a regulated air contaminant.

8. The Permittee shall track and report in the Facility Operating Report required by Permit to Operate No. 9423-AA003, the use of permanent and temporary non-road engines installed after final issue date of this permit that have a size rating greater than 400 Brake Horse Power. Include in the report the engine size, serial number, tag number, and the dates that the engine arrived on the platform, initially started up on-site, finally shut down on-site, and the engine removal from the platform.

9. Sulfur Dioxide Requirements. The Permittee shall comply with the following requirement to protect ambient air:

9.1 The H_2S content of natural gas burned in all gas-fired fuel burning equipment shall not exceed 2000 PPM.

a. Monitor, record, and report H_2S as set out in Permit No. 9423-AA005 Exhibit C Part I—Fuel Gas Burned-Sulfur Content, and Exhibit C, Part II, Exhibit D, Item 3 for natural Gas.

10. For source 6, Permittee shall permanently remove the replaced Ruston B 5200 gas fired turbine before initial start-up of the replacement Solar Centaur Turbine on the platform.

Section 6. Owner Requested Limits to Avoid Classification as a PSD Major Modification

11. Nitrogen Oxides Requirements. The Permittee shall avoid classification as a Prevention of Significant Deterioration major modification under 18 AAC 50.300(h)(3)(B)(ii) for NO_X as follows:

11.1 After installing the Solar Centaur 40-T4700S:

a. The Permittee shall operate the Solar Centaur 40-T4700S without SoLoNO$_X$ technology for no greater than 504 hours per twelve-month rolling period. The Permittee shall operate the Solar Centaur 40-T4700S with SoLoNO$_X$ technology at all other times the unit is in operation.

b. [1]Limit the cumulative total NO_X emission limit for the Solar Centaur 40-T4700S to no greater than 50.4 tons per 12-month rolling period, expressed as NO_2.

11.2 After installing the Solar Centaur 40-T4700S, the Permittee shall monitor compliance with Condition 11.1 as follows:

a. Source Testing Requirement:

(i) Within 60 days after achieving the maximum production rate at which the Solar Centaur 40-T4700S will be operated, but no later than 180 days after initial startup, conduct a NO_X emission source test at four loads. Test the unit at 30, 50, 75, and 100 percent of peak load or at four loads within the normal operating range, including the minimum point in the range and the peak load. Determine the exhaust gas flow rate of the turbine using test methods 1-4 and method 19 of 40 CFR 60 Appendix A. Collect turbine-operating parameters during the tests such as fuel consumption-rate and load.

(ii) Perform source testing for operations in non-SoLoNO$_X$ mode within 60 days after operating 336 consecutive hours in non-SoLoNO$_X$ mode if:

(A) a low load condition caused the turbine to go into non-SoLoNO$_X$ mode, and the load condition is not due to emergency procedures directly involving the turbine-driven electric equipment prior to the start of non-SoLoNO$_X$ mode operations, or

[1] The 50.4 ton per twelve-month rolling period cap is an owner requested limit. To avoid confusion in the future when netting emissions for project classification under 18 AAC 50.300 (h)(3), this project resulted in a net decrease in NO_X emissions of 15.6 tons per twelve-month rolling period from the King Salmon Platform. Additional detail is provided in table 3.0-3 of the Technical Analysis Report for Air Quality Control Construction Permit No. 0123-AC008.

(B) The turbine is operating in non-SoLoNO$_X$ mode at normal load conditions due to inability of the SoLoNO$_X$ technology to perform for reasons other than mechanical failure or emergency operations.

(iii) Source test in accordance with the monitoring, recording, and reporting requirements set forth in Section 10.

(iv) For each test, determine the average load, exhaust gas flow rate and, based on the molecular weight of NO_2, the NO_X

1. mass emission rate (lb. NO_X/hr of operation)
2. fuel specific mass emission factor (lb. NO_X/MM-scf fuel gas), using exhaust properties determined by both Method 19 and exhaust gas measurements as set out in Section 10. Monitor and record the fuel consumption during each test. Use consistent heating values (higher heating value or lower heating value) throughout the analysis. If the "F" factor in table 19-1 of Method 19 is used in the calculations the higher heating value must be used in all calculations.

(v) Within 45 days of the source tests conducted in Condition 11.2a(i), calculate and record the Solar Centaur 40-T4700S's twelve-month rolling NOx emissions. Use the corresponding highest average mass emission rate based on the source tests and Condition 11.2a(iv)1 for the turbine operating in SoLoNO$_X$ mode. Except as provided in Condition 11.2a(ii), for operation in SoLoNOx mode, calculate and record emissions based on hours of operation in non-SoLoNOx mode and an emission rate of 11.1 lb/hour.

(vi) If source testing is conducted as required by Condition 11.2a(ii), then adjust the method for calculating and recording the Solar Centaur's 12-month rolling NO_X emissions as follows. Within 45 days of the source test, use the corresponding highest mass emission rate determined from the source test and Condition 11.2a(iv) for the turbine operating in non-SoLoNO$_X$ mode.

b. Monitoring and Recording Requirements:

(i) Monitor and record the monthly hours of operation <u>with</u> SoLoNO$_X$ pilot flames operating and hours of operation <u>without</u> SoLoNO$_X$ pilot flames operating. Also, monitor monthly average load and fuel consumption for use calculating emissions as specified in Condition 11.2b(ii)2

(ii) If the potential to emit NO_X as determined in Condition 11.2a(v) is greater than 50.4 tons per 12-month rolling period, install, operate and maintain in good working order a continuous system for recording and monitoring fuel consumption from Source 6. Calculate and record the cumulative monthly and 12 month rolling total NO_X emissions using either:

1. the hours of operation as recorded and the maximum emission rate for the mode of turbine operation during those hours; or

2. the load and fuel consumed while in each mode, and the appropriate [2] fuel specific emission factor for the monthly average operating load in $SoLoNO_X$ mode and in non-$SoLoNO_X$ mode.

11.3 After installing the Solar Centaur 40-T4700S, the Permittee shall report compliance with Condition 11.1 as follows:

a. Attach to the Operating Report required under Condition 36 of this permit, the cumulative total monthly and 12-month rolling total hours of operation with and without $SoLoNO_X$ technology and cumulative total monthly and 12-month rolling NOx emission rates. Monitor SoLoNOx operating mode by whether the combustor pilot flames are on. If the duration of the emission unit's operations has not yet exceeded 12 months, list the cumulative emissions of the unit as a substitute for compliance with the 12-month rolling total emission limit.

b. The Permittee is exempt from reporting NO_X emissions in Condition 11.3a prior to submission of source test results. Within 60 days after each series of source tests are completed, submit to the Department either:

(i) A demonstration showing that the potential to emit NO_X as calculated in Condition 11.2a(v) is less than 50.4 tons per 12-month rolling period; or

(ii) A calculation of the monthly and 12-month rolling total NO_X emissions for the Solar Centaur 40-T4700S as determined by Condition 11.2b(ii) from the start up date up to the date source tests were completed.

12. Carbon Monoxide Requirements. The Permittee shall avoid classification as a Prevention of Significant Deterioration major modification under 18 AAC 50.300(h)(3)(B)(i) for CO as follows:

a. [3]Limit the cumulative total CO emission limit for the Solar Centaur 40-T4700S to no greater than 59.5 tons per 12-month rolling period.

[2] For the purpose of this permit condition, appropriate is defined as either the highest of the fuel specific emission factors defining the monthly average load range, or that interpolated for the monthly average load from the fuel specific emission factors derived by the source testing.

[3] 59.5 tons per twelve-month rolling period is an owner requested limit. To avoid confusion in the future when netting emissions for project classification under 18 AAC 50.300 (h)(3), this project will have a net CO emission increase of 66.7 tons per twelve-month rolling period at the King Salmon Platform. Additional detail is provided in table 3.0-3 of the Technical Analysis Report for Air Quality Control Construction Permit No. 0123-AC008.

b. The Permittee shall operate the Solar Centaur 40-T4700S without $SoLoNO_X$ technology for no greater than 504 hours per twelve-month rolling period. The Permittee shall operate the Solar Centaur 40-T4700S with $SoLoNO_X$ technology at all other times the unit is in operation.

12.2 After installing the Solar Centaur 40-T4700S the Permittee shall monitor compliance with Condition 12a as follows:

a. Source Testing Requirement:

(i) Within 60 days after achieving the maximum production rate at which the Solar Centaur 40-T4700S will be operated, but no later than 180 days after initial startup, conduct a CO emission source test at four loads. Test the unit at 30, 50, 75, and 100 percent of peak load, or at four loads within the normal operating range including the minimum point in the range and the peak load. Determine the exhaust gas flow rate of the turbine using test methods 1-4 and method 19 of 40 CFR 60 Appendix A. Collect turbine operational parameters during the tests, such as fuel consumption rate and load.

(ii) The permittee must perform source testing for operations in non-SoLoNOx mode within 60 days after operating 336 consecutive hours in non-SoLoNOx mode if:

(A) A low load condition caused the turbine to so into non-SoLoNOx mode, and the load condition is not due to emergency procedures directly involving the turbine-driven electric equipment prior to the start of non-SoLoNOx mode operations, or

(B) The turbine is operating in non-SoLoNOx mode at normal load conditions due to inability of the SoLoNOx technology to perform for reasons other than mechanical failure or emergency operations.

(iii) Source test in accordance with the monitoring, recording, and reporting requirements set forth in Section 10.

(iv) For each test, determine the average load, exhaust gas flow rate and, based on the molecular weight of CO, the CO

1. mass emission rate (lb. CO/hr of operation)
2. fuel specific mass emission factor (lb. CO/MM-scf fuel gas), using exhaust properties determined by both Method 19 and exhaust gas measurements as set out in Section 10 Monitor and record the fuel consumption during each test. Use consistent heating values (higher heating value or lower heating value) throughout the analysis. If the "F" factor in table 19-1 of Method 19 is used in the calculations the higher heating value must be used in all calculations.

(v) Within 45 days of the source tests conducted in Condition 12.2a(i), calculate and record the Solar Centaur 40-T4700S's twelve-month rolling CO emissions. Use the corresponding highest average mass emission rate based on the source tests and Condition 12.2a(iv)1 for the turbine operating in $SoLoNO_X$ mode. Except as provided in Condition 12.2a(vi), for operation in the non-SoLoNOx mode, calculate and record emissions based on operation in non-SoLoNOx mode and an emission rate of 134 lb/hour.

(vi) If source testing is conducted as required by Condition 12.2a(ii), then adjust the method for calculating and recording the Solar Centaur's 12-month rolling CO emissions as follows. Within 45 days of the source test, use the corresponding highest average mass emission rate determined from the source test and Condition 12.2a(iv) for the turbine operating in non-SoLoNOx mode.

b. Monitoring and Recording Requirements:

(i) Monitor and record the monthly hours of operation <u>with</u> $SoLoNO_X$ pilot flames operating and hours of operation <u>without</u> $SoLoNO_X$ pilot flames operating. Also, monitor the monthly load and fuel consumption to calculate emissions as specified in Condition 12.2b(ii)2.

(ii) If the potential to emit CO as determined in Condition 12.2a(v) is greater than 59.5 tons per 12-month rolling period, calculate and record the cumulative monthly and 12 month rolling total CO emissions using either:

1. the hours of operation as recorded for Condition 12.2b(i) and the maximum emission rate for the mode that the turbine was operating in for those hours; or
2. the load and fuel consumed while in each mode, and the appropriate [4] fuel specific emission factor for the monthly average operating load in $SoLoNO_X$ mode and in non-$SoLoNO_X$ mode.

12.3 After installing the Solar Centaur 40-T4700S with $SoLoNO_X$, the Permittee shall report compliance with Condition 12a as follows:

a. Report hours of operation in SoLoNOx mode and non-SoLoNOx mode as required in Condition 11.3a.

b. If subject to Condition 12.2b(ii) attach to the Operating Report required under Condition 36 of this permit, the cumulative total monthly and 12-month rolling total CO emission rates from the Solar Centaur 40-T4700S. If the duration of the emission unit's operations has not yet exceeded 12 months, list the cumulative emissions of the unit as a substitute for compliance with the 12-month rolling total emission limit.

c. The Permittee is exempt from reporting CO emissions in Condition 12.3b prior to the deadline to submit source test results listed in Section 10. Within 60 days after the source tests, submit to the Department either:

(i) A demonstration showing that the potential to emit CO as calculated in Condition 12.2a(iv) is less than 59.5 tons per 12-month rolling period; or

(ii) A calculation of the monthly and 12-month rolling total CO emissions for the Solar Centaur 40-T4700S operations up to the date source tests were completed as determined by Condition 12.2b(ii) from the startup date.

[4] For the purpose of this permit condition, appropriate is defined as either the highest of the fuel specific emission factors for that monthly average load range, or interpolated for the monthly average load range from the fuel specific emission factors that were determined by the source testing.

Section 7. Federal New Source Performance Standards

This section is applicable to the Solar Centaur 40-T4700S Turbine

The Permittee shall comply with the requirements of 40 C.F.R. 60, New Source Performance Standards (NSPS) as they apply to affected facilities. Notify and report as set out below and as specified in Condition 35.

13. Good Air Pollution Control Practice. At all times, including periods of startup, shutdown, and malfunction, the Permittee shall, to the extent practicable, maintain, and operate the Solar Centaur 40-T4700S including associated air pollution control equipment in a manner consistent with good air pollution control practice for minimizing emissions. Determination of whether acceptable operating and maintenance procedures are being used will be based on information available to the Department that may include, but is not limited to, monitoring results, opacity observations, review of operating and maintenance records, and inspections of the Solar Centaur 40-T4700S.

{18 AAC 50.040(a)(1), 1/18/97}
[18 AAC 50.320(a)(2)(A-E), 1/18/97]

14. 40 C.F.R. 60, Subpart A, General Provisions: In accordance with 40 C.F.R. 60, Subpart A, 40 C.F.R. 61, Subpart A, and 18 AAC 50.040, for each construction, modification, or reconstruction of affected facilities and sources regulated under 40 C.F.R. 60 and 61:

14.1 Notify the Department and EPA:

a. No later than 30 days after construction or reconstruction commencement in accordance with 40 C.F.R. 60.7(a)(1);

b. No more than 15 days after start-up in accordance with 40 C.F.R. 60.7(a)(3);

c. No less than 30 days prior to conducting a demonstration of continuous monitoring system performance as set out in 40 C.F.R. 60.7(a)(5);

d. No less than 60 days prior to commencement of reconstruction or replacement of a facility, as defined in 40 C.F.R. 60, notify the Department and EPA with information as set out in 40 C.F.R. 60.15(d).

14.2 For affected facilities regulated under 40 C.F.R. 60, maintain records or occurrence and duration of start-up, shut-down, or malfunction of an affected facility, control equipment, or monitoring equipment as set out in 40 C.F.R. 60.7(b). Submit continuous monitoring system performance reports as set out in 40 C.F.R. 60.7(c) and (d). Maintain a file of measurements as set out in 40 C.F.R. 60.7(e).

14.3 For affected facilities regulated under 40 C.F.R. 60, within 60 days after achieving maximum production rate, but no later than 180 days after initial start-up and at such other times as may be required by the EPA under Section 114 of the U.S. Clean Air Act, conduct performance tests as follows:

a. Notify the Department and EPA at least 30 days in advance of any performance test as set out in 40 C.F.R. 60.8(d) and 60.11(e)(1);

b. Conduct performance tests and data reduction as set out in 40 C.F.R. 60.8(b) and (f);

c. Provide the Department copies of EPA administrator approvals for alternative performance testing;

d. Provide sampling ports and platform(s), safe access to platform(s), and utilities, and conduct testing as set out under 40 C.F.R. 60.8(c) and (e); and

e. Furnish the Department and EPA a copy of the performance test as set out in 40 C.F.R. 60.8(a) and 60.11(e)(2) through (5).

14.4 At all times, maintain, and operate each affected facility including pollution control equipment, as set out in 40 C.F.R. 60.11(d).

14.5 For the purpose of submitting compliance certifications or establishing whether or not the Permittee has violated or is in violation of any standard cited in this part, nothing in this part shall preclude the use, including the exclusive use, of any credible evidence or information relevant to whether the NSPS-affected sources would have been in compliance with applicable requirements if the appropriate performance or compliance test or procedure had been performed.

14.6 The Permittee is prohibited from concealing a violation of any applicable NSPS standard as set out in 40 C.F.R. 60.12.

14.7 For continuous monitoring systems and devices required under NSPS:

a. Ensure all systems and devices are installed, calibrated, and operational as set out in 40 C.F.R. 60.13(b), prior to conducting a performance test under 40 C.F.R. 60.8;

b. Conduct a performance evaluation of Continuous Emission Monitoring Systems (CEMS) or Continuous Opacity Monitoring Systems (COMS) as set out in 40 C.F.R. 60.13(c);

c. Conduct daily zero and span checks of CEMS and COMS as set out in 40 C.F.R. 60.13(d);

d. Ensure all continuous monitoring systems meet the minimum frequency of operation requirements set out in 40 C.F.R. 60.13(e), and are kept in continuous operation, except for system breakdowns, repairs, calibration checks, and zero/span adjustments;

e. Install continuous monitoring systems to obtain representative emission or process parameters, as set out in 40 C.F.R. 60.13(f);

f. Reduce continuous monitoring system data as set out in 40 C.F.R. 60.13(h); and

g. Provide the Department a copy of each EPA alternative monitoring approval or relative accuracy test audit approval issued under 40 C.F.R. 60.13(i) or (j).

[18 AAC 50.320(a)(2)(A-E), 1/18/97]
{18 AAC 50.040(a)(1), 1/18/97}

15. 40 C.F.R. 60, Subpart GG, Stationary Gas Turbines:

15.1 Applicability and designation of affected facilities, 40 C.F.R. 60.330. Affected units are all stationary gas turbines as described in 40 C.F.R. 60.330(a) and (b). Those with a heat input at peak load equal to or greater than 10.7 gigajoules per hour (10 MMBtu per hour) based on the lower heating value and which commenced construction, modification, or reconstruction after October 3, 1977. Emergency fuel is defined in 40 C.F.R. 60.331(r) as fuel fired by a gas turbine only during circumstances such as natural gas supply curtailment or breakdown of delivery system, that make it impossible to fire natural gas in the gas turbine.

15.2 Standards for nitrogen oxides, 40 C.F.R. 60.332(a)(2) and (k), applicable to the Solar Centaur 40-T4700S. Comply with the NO_x emission limit as listed in 40 C.F.R. 60.332(a)(2). The limit is STD = 0.015(14.4)/Y; where STD is the allowable NO_X emissions (percent by volume) at 15 percent O_2, Y is the manufacturer's rated heat rate at manufacturer's peak load (kilojoules per watt-hour). Based on the manufacturer's heat rate of 13.49 kJ/W-hr (12,793 Btu/kW-hr), the Solar Centaur 40-T4700S will have a limit of 160 PPM corrected for ISO conditions at 15% O_2. Natural gas-fired turbines are exempt from 40 C.F.R. 60.332(a)(2) when firing emergency fuel, as described in 40 C.F.R. 60.331(r).

15.3 Standards for sulfur dioxide, 40 C.F.R. 60.333. Comply with the sulfur dioxide new source performance limitations listed in 40 C.F.R. 60.333(a) or (b) of 150 ppm exhaust concentration or 0.8 percent fuel sulfur content by weight, respectively. Comply with these requirements by burning natural gas in the Solar Centaur 40-T4700S with a H_2S content not to exceed 4,000 PPM.

15.4 Monitoring of operations, 40 C.F.R. 60.334. Except as provided for in an U.S. EPA waiver or custom monitoring schedule, comply with 40 C.F.R. 60.334(b) to monitor and record the sulfur content and nitrogen content of the fuel gas or liquid fuel.

15.5 Test methods and Procedures, 40 C.F.R. 60.335, applicable to all affected facilities. Determine compliance with NO_X the and SO_2 standards in 40 C.F.R. 60.332 and 60.333 as follows:

a. Conduct performance tests as required in 40 C.F.R. 60.335(b) and (c), or alternative test methods in accordance with 40 C.F.R. 60.335(f);

b. Determine compliance with the sulfur content standard using methodology described in 40 C.F.R. 60.335(d), except as provided for in an EPA alternative monitoring plan;

c. The Permittee may propose an alternative to the reference methods in accordance with 40 C.F.R. 60.335(f)(1). Provide a copy of each EPA issued custom monitoring plan upon the Department's request.

[18 AAC 50.320(a)(2)(A-E), 1/18/97]
{18 AAC 50.040(a)(2)(V), 1/18/97}

Section 8. State Emission Standards

This section applicable to the Solar Centaur 40-T4700S

Visible Emissions

16. The Permittee shall not cause or allow visible emissions, excluding condensed water vapor, emitted from the Solar Centaur 40-T4700S to reduce visibility through the exhaust effluent by greater than 20% for more than three minutes in any one hour.

16.1 Monitor, record and report according to Section 13.

[18 AAC 50.055(a)(1), 1/18/97]
[18 AAC 50.320(a)(2), 1/18/97]
[18 AAC 50.320(a)(2)(A-E), 1/18/97]

Particulate Matter

17. The Permittee shall not cause or allow particulate matter emitted from the Solar Centaur 40-T4700S to exceed 0.05 grains per cubic foot of exhaust gas corrected to standard conditions and averaged over three hours.

17.1 Monitor, record and report according to Section 13.

[18 AAC 50.055(b)(1), 1/18/97]
[18 AAC 50.320(a)(2), 1/18/97]
[18 AAC 50.320(a)(2)(A-E), 1/18/97]

Sulfur Compound Emissions

18. The Permittee shall not cause or allow sulfur compound emissions, expressed as SO_2, from the Solar Centaur 40-T4700S to exceed 500 PPM averaged over three hours.

18.1 Compliance with this condition is assured by using a grade of fuel with a H_2S content that is not to exceed 3,900 PPM.

18.2 Monitor, record, and report according to Permit No. 9423-AA005, dated May 18, 1995.

[18 AAC 50.055(c), 1/18/97]
[18 AAC 50.320(a)(2), 1/18/97]
[18 AAC 50.320(a)(2)(A-E), 1/18/97]

Section 9. Generally Applicable Requirements

19. Modification. The Permittee shall not construct, operate, or modify a source that will result in a violation of the applicable emission standards or that will interfere with the attainment or maintenance of the ambient air quality standards or maximum allowable ambient concentrations.

[18 AAC 50.045(c), 1/18/97]
[18 AAC 50.320(a)(2), 1/18/97]

19.1 Obtain all permits or permit revisions required for construction, modification, or operation under 18 AAC 50 and AS 46.14.

[18 AAC 50.320(a)(2), 1/18/97]

19.2 Comply with the conditions of all permits obtained under 18 AAC 50 and AS 46.14.

[18 AAC 50.320(a)(2), 1/18/97]

20. Air Pollution Prohibited. The Permittee shall not cause any emission which is injurious to human health or welfare, animal or plant life, or property, or which would unreasonably interfere with the enjoyment of life or property.

[18 AAC 50.110, 5/26/72]
[18 AAC 50.040(e), 1/18/97]
[18 AAC 50.320(a)(2), 1/18/97]

20.1 Within 24 hours of receiving a complaint that is attributable to emissions from any of the sources listed in Table 1, investigate the complaint, and if warranted, initiate corrective actions to alleviate or eliminate the cause of the complaint.

[18 AAC 50.320(a)(2)(A-C), 1/18/97]

20.2 Keep records of the date, time, and nature of all complaints received, a summary of the investigation, and if applicable the corrective actions undertaken for complaints attributable to emissions from the sources listed in Table 1. Upon request of the Department, submit copies of the records.

[18 AAC 50.320(a)(2)(D-E), 1/18/97]

21. Technology-Based Emission Standard. If an unavoidable emergency, malfunction, or non-routine repair, as defined in 18 AAC 50.235, causes emissions in excess of a technology-based emission standard listed in conditions 15.2 and 15.3, the Permittee shall take all reasonable steps to minimize levels of emissions that exceed the standard.

[18 AAC 50.235(a), 1/18/97]
[18 AAC 50.320(a)(2), 1/18/97]

Section 10. General Source Testing and Monitoring Requirements

This section is applicable to the Solar Centaur 40-T4700S Turbine

22. Requested Source Tests. In addition to any source testing explicitly required by this permit, the Permittee shall conduct source testing as requested by the Department to determine compliance with applicable permit requirements.

[18 AAC 50.220(a), 1/18/97]
[18 AAC 50.345(a)(10), 1/18/97]

23. Operating Conditions. Unless otherwise specified by an applicable requirement or test method, the Permittee shall conduct source testing:

23.1 At a point or points that characterize the actual discharge into the ambient air; and

23.2 At the maximum rated burning or operating capacity of the source or another rate determined by the Department to characterize the actual discharge into the ambient air.

[18 AAC 50.220(b) & (c), 1/18/97]
[18 AAC 50.320(a)(2)(A-C), 1/18/97]

24. Reference Test Methods. The Permittee shall use the following as reference test methods when conducting source testing for compliance with this permit:

24.1 Source testing for compliance with requirements adopted by reference in 18 AAC 50.040(a) must be conducted in accordance with the methods and procedures specified in 40 C.F.R. 60.

[18 AAC 50.220(b) & (c), 1/18/97]
[18 AAC 50.320(a)(2)(A-C), 1/18/97]

24.2 Source testing for compliance with requirements adopted by reference in 18 AAC 50.040(b) must be conducted in accordance with the methods and procedures specified in 40 C.F.R. 61.

[18 AAC 50.220(b) & (c), 1/18/97]
[18 AAC 50.320(a)(2)(A-C), 1/18/97]

24.3 Source testing for compliance with requirements adopted by reference in 18 AAC 50.040(c) must be conducted in accordance with the source test methods and procedures specified in 40 C.F.R. 63.

[18 AAC 50.220(b) & (c), 1/18/97]
[18 AAC 50.320(a)(2)(A-C), 1/18/97]

24.4 Source testing for the reduction in visibility through the exhaust effluent must be conducted in accordance with the procedures set out in Section 14 of this permit. Visibility source testing is exempt from the requirements listed in Conditions 26 through 28. Except as otherwise directed by the Department, attach visible emission source testing results to the Facility Operating Report required by Condition 36 of this permit.

[18 AAC 50.220(b) & (c), 1/18/97]
[18 AAC 50.320(a)(2)(A-C), 1/18/97]

24.5 Source testing for emissions of particulate matter, sulfur compounds, nitrogen compounds, carbon monoxide, lead, volatile organic compounds, fluorides, sulfuric acid mist, municipal waste combustor organic compounds, metals, and acid gases must be conducted in accordance with the methods and procedures specified 40 C.F.R. 60, Appendix A.

[18 AAC 50.220(b) & (c), 1/18/97]
[18 AAC 50.320(a)(2)(A-C), 1/18/97]

24.6 Source testing for emissions of PM_{10} must be conducted in accordance with the procedures specified in 40 C.F.R. 51, Appendix M.

[18 AAC 50.220(b) & (c), 1/18/97]
[18 AAC 50.320(a)(2)(A-C), 1/18/97]

24.7 Source testing for emissions of any contaminant may be determined using an alternative method approved by the Department in accordance with Method 301 in Appendix A to 40 C.F.R. 63.

[18 AAC 50.220(b) & (c), 1/18/97]
[18 AAC 50.320(a)(2)(A-C), 1/18/97]

25. Excess Air Requirements. To determine compliance with this permit, standard exhaust gas volumes must only include the volume of gases formed from the theoretical combustion of fuel, plus the excess air volume normal for the specific source type, corrected to standard conditions (dry gas at 68° F and an absolute pressure of 760 millimeters of mercury).

[18 AAC 50.220(b) & (c), 1/18/97]
[18 AAC 50.320(a)(2)(A-C), 1/18/97]
[18 AAC 50.990(88), 1/18/97]

26. Test Plans. Before conducting any source tests, the Permittee shall submit a plan to the Department. The plan must include the methods and procedures to be used for sampling, testing, and quality assurance, and must specify how the source will operate during the test and how the Permittee will document this operation. A complete plan must be submitted within 60 days of receiving a request under Condition 22 and at least 30 days before the scheduled date of any tests.

[18 AAC 50.345(a)(10), 1/18/97]
[18 AAC 50.320(a)(2), 1/18/97]
[18 AAC 50.320(a)(2)(A-C), 1/18/97]

27. Test Notification. At least 10 days before conducting a source test, the Permittee shall give the Department written notice of the date and time the source test will begin.

[18 AAC 50.345(a)(10), 1/18/97]
[18 AAC 50.320(a)(2), 1/18/97]
[18 AAC 50.335(g), 1/18/97]

28. Test Reports. Within 45 days after completing a source test, the Permittee shall submit two copies of the results, to the extent practical, in the format set out in the *Source Test Report Outline* of Volume III, Section IV.3, of the State Air Quality Control Plan, adopted by reference in 18 AAC 50.030(8). The Permittee shall certify the results as set out in Condition 30 of this permit.

[18 AAC 50.345(a)(10), 1/18/97]
[18 AAC 50.320(a)(2), 1/18/97]
[18 AAC 50.320(a)(2)(D), 1/18/97]

29. Continuous Monitoring Systems. If required by terms and conditions of this permit, install, calibrate, conduct applicable continuous monitoring system performance specification tests listed in 40 C.F.R. 60, Appendix B, effective July 1, 1997, and certify test results; operate; and maintain air contaminant emissions and process monitoring equipment on the sources as described herein and in documents provided by the Permittee, listed in Section 16. Maintain records of monitoring equipment siting, operating, maintenance plans, and procedures.

[18 AAC 50.320(a)(2), 1/18/97]

Section 11. General Recordkeeping, Reporting, and Compliance Certification Requirements

30. Certification. The Permittee shall certify all reports, compliance certifications, or other documents submitted to the Department and required under this permit by including the signature of a responsible official for the permitted facility following the statement: "Based on information and belief formed after reasonable inquiry, I certify that the statements and information in and attached to this document are true, accurate, and complete." For the same three-month reporting period, the excess emission reports submitted pursuant to Condition 34 may be certified with the operating report required by Condition 36 of this permit. All other reports must be certified upon submittal.

[18 AAC 50.205, 1/18/97]
[18 AAC 50.345(a)(9), 1/18/97]
[18 AAC 50.320(a)(2) & 18 AAC 50.320(a)(2)(E), 1/18/97]

31. Submittals. Unless otherwise directed by the Department or this permit, the Permittee shall send reports, compliance certifications, and other documents required by this permit to ADEC, Fairbanks Air Permits Office, Compliance Assurance, 610 University Avenue, Fairbanks, AK 99709.

[18 AAC 50.320(a)(2)(E), 1/18/97]

32. Information Requests. The Permittee shall furnish to the Department, within a reasonable time, any information the Department requests in writing to determine whether cause exists to modify, revoke and reissue, or terminate the permit or to determine compliance with the permit. Upon request, the Permittee shall furnish to the Department copies of records required to be kept by this permit. The Department, in its discretion, will require the Permittee to furnish copies of those records directly to the federal administrator.

[18 AAC 50.200, 1/18/97]
[18 AAC 50.345(a)(8), 1/18/97]
[18 AAC 50.320(a)(2) & 18 AAC 50.320(a)(2)(A-E), 1/18/97]

33. Recordkeeping Requirements. The Permittee shall keep all records required by this permit for at least five years after the date of collection, including:

33.1 Copies of all reports and certifications submitted pursuant to this Section of this permit.

33.2 Records of all monitoring required by this permit, and information about the monitoring including:

a. calibration and maintenance records, original strip chart or computer-based recordings for continuous monitoring instrumentation;

b. sampling dates and times of sampling and measurements;

c. the operating conditions that existed at the time of sampling or measurement not applicable to fuel gas H_2S sampling;

d. the date analyses were performed;

e. the location where samples were taken;

f. the company or entity that performed the sampling and analyses;

g. the analytical techniques or methods used in the analyses; and

h. the results of the analyses.

[18 AAC 50.320(a)(2)(D), 1/18/97]

34. Excess Emission and Permit Deviation Reports.

34.1 Except as provided in condition 20.2, the Permittee shall report all emissions or operations that exceed or deviate from the requirements of this permit as follows.

a. Report as soon as possible after the event commences

(i) emissions that present a potential threat to human health or safety; and

(ii) excess emissions which the permittee believes to be unavoidable;

b. within two days of discovery, report

(i) excess emissions measured or observed, and

(ii) operation in excess of permit requirements under this permit for

- allowable fuel quality or quantity,
- allowable hours of operation
- any other limitation used to avoid a classification by limiting the facility's potential to emit
- any other limitation used to assure compliance with ambient air quality standards or maximum allowable increases
- Reasonable precautions to prevent fugitive dust;

c. no later than 30 days after the end of the month in which the deviation was discovered, report the failure to monitor emissions, and

d. report all other deviations with the next facility operating report.

34.2 The report must include the form contained in Section 15 of this permit, and provide all information listed on the form.

34.3 If requested by the department, provide a more detailed written report as requested to follow up the excess emission report.

[18 AAC 50.235(a)(2) & 18 AAC 50.240(c), 1/18/97]
[18 AAC 50.320(a)(2)(E), 1/18/97]

35. NSPS and NESHAP Reports. The Permittee shall submit to the Department copies of federal reports, as they apply to the facility as follows:

35.1 Attach a copy of any NSPS and NESHAP reports submitted to the EPA Region 10 to the Operating Report required by Condition 36 if a copy has not already been sent to the appropriate Department office.

35.2 The Permittee shall notify the Department of any EPA granted waivers of NSPS or NESHAP emission standards, record keeping, monitoring, performance testing, or reporting requirements within 30 days after the Permittee receives a waiver if the Department has not already been provided a copy by EPA.

[18 AAC 50.040, 1/18/97]
[Federal Citation 40 C.F.R. 60 & 40 C.F.R. 61, 7/1/97]

36. Operating Reports. During the life of this permit, the Permittee shall submit an original and two copies of an operating report as set out by Permit No. 9423-AA005. This report must include copies of the records required to be reported by the conditions of this permit. In addition, the report must include a listing of all dates of deviations and excess emissions, corresponding with Condition 34, which occurred during the reporting period. If the Permittee is certifying the excess emission and permit deviation report pursuant to Condition 30, then a copy of each excess emission and permit deviation report must be attached to the operating report.

[18 AAC 50.320(a)(2)(A-E), 1/18/97]

Section 12. Standard Conditions Not Otherwise Included in the Permit

37. The Permittee must comply with each permit term and condition. Noncompliance constitutes a violation of AS 46.14, 18 AAC 50, and the Clean Air Act, except for those requirements designated as not federally-enforceable, and is grounds for:

37.1 an enforcement action,

37.2 permit termination, revocation and reissuance, or modification in accordance with AS 46.14.280, or

37.3 denial of a construction-permit renewal application.

[18 AAC 50.345(a)(1), 1/18/97]
[18 AAC 50.320(a)(1), 1/18/97]

38. It is not a defense in an enforcement action to claim that it would have been necessary to halt or reduce the permitted activity in order to maintain compliance with a permit term or condition.

[18 AAC 50.345(a)(2), 1/18/97]
[18 AAC 50.320(a)(2), 1/18/97]

39. Each permit term and condition is independent of the permit as a whole and remains valid regardless of a challenge to any other part of this permit.

[18 AAC 50.345(a)(3), 1/18/97]
[18 AAC 50.320(a)(2), 1/18/97]

40. Compliance with permit terms and conditions is considered to be compliance with those requirements that are:

40.1 included and specifically identified in the permit, or

40.2 determined in writing in the permit to be inapplicable.

[18 AAC 50.345(a)(4), 1/18/97]
[18 AAC 50.320(a)(2), 1/18/97]

41. The permit may be modified, reopened, revoked and reissued, or terminated for cause. A request by the Permittee for modification, revocation and reissuance, or termination or a notification of planned changes or anticipated noncompliance does not stay any construction permit condition.

[18 AAC 50.345(a)(5), 1/18/97]
[18 AAC 50.320(a-c), 1/18/97]

42. The permit does not convey any property rights of any sort, nor any exclusive privilege.

[18 AAC 50.345(a)(6), 1/18/97]
[18 AAC 50.320(b), 1/18/97]

43. The Permittee shall allow an officer or employee of the Department or an inspector authorized by the Department, upon presentation of credentials and at reasonable times with the consent of the owner or operator, to:

43.1 enter upon the premises where a source subject to the construction permit is located or where records required by the permit are kept,

43.2 have access to and copy any records required by the permit,

43.3 inspect any facilities, equipment, practices, or operations regulated by or referenced in the permit, and

43.4 sample or monitor substances or parameters to assure compliance with the permit or other applicable requirements.

[18 AAC 50.345(a)(7), 1/18/97]
[18 AAC 50.320(a)(2), 1/18/97]

Section 13. Visible Emissions and Particulate Matter Monitoring Plan

Visible Emissions Observations

44. The Permittee shall observe visible emissions in the exhaust of each source listed in Table 1 of Section 4 as follows:

44.1 For the Solar Centaur 40-T4700S burning natural gas fuel: Within 10 days after startup, conduct an observation of the exhausts for the presence or absence of visible emissions, excluding condensed water vapor. The observation shall consist of a visual survey no less than 6 minutes in duration. Record the following information in a written log for each observation:

a. The date and time of the observation;

b. From Table 1 of Section 4 of this permit, the ID of the source observed;

c. Whether visible emissions are present or absent in the exhaust;

d. If the source starts operation on the day of the observation, the startup time of the source; and

e. Name, title, and signature of the person making the observation.

Corrective Actions Based on Visible Emissions Observations

45. If visible emissions are present in the exhaust during an observation performed under Condition 44.1 or at any other time, the Permittee shall

45.1 If visible emissions persist, take actions to reduce visible emissions from the source within 24 hours of the observation;

45.2 Keep a written record of the starting date, the completion date, and a description of the actions taken to reduce visible emissions;

45.3 After completing the actions taken to reduce visible emissions, immediately upon startup of the source, observe the source exhaust for visible emissions as described under Condition 44.1 a, b, c, d, and e; and

45.4 If visible emissions are still present in the exhaust during an observation performed under Condition 45.3, then take action to reduce visible emissions as detailed in Conditions 45.1 and 45.2. Within 14 days after subsequent startup, observe the exhaust for 15 minutes to obtain 60 individual 15-second reading in accordance with Section 14 of this permit.

Particulate Matter Testing

46. Upon Department request and as required by this permit, the Permittee shall conduct tests to determine the concentration of particulate matter in the exhaust of a source as follows:

46.1 Conduct the tests according to the requirements set out in Section 10 of this permit; and

46.2 During each test, observe visible emissions in accordance with Section 14 and calculate the average opacity that was measured during the test. Submit the results of the visible emission observations and the calculation with the source test report.

Reporting Requirements

47. The Permittee is not required to comply with Conditions 26, 27, and 28 while observing visible emissions.

48. For all visible emissions observations taken under Conditions 44.1, 45.3, and 45.4, the Permittee shall submit copies of observation results with the facility report required by Condition 36.

49. For all tests to determine the particulate matter in the exhaust of a source conducted under Condition 46, the Permittee shall report as set out in Section 10.

50. The Permittee shall submit a report in accordance with Condition 34 if:

50.1 A visible emission observation results in 13 or more 15-second readings with an opacity greater than 20% for Solar Centaur 40-T4700; or

50.2 The results of a test for particulate matter exceed the particulate matter emission limit.

[18 AAC 50.320(a)(2)(A-E), 1/18/97]

Section 14. Visible Emission Evaluation Procedures

An observer qualified according to 40 C.F.R. 60, Reference Method 9 shall use the following procedures to determine the reduction of visibility through the exhaust effluent.

Position. The qualified observer shall stand at a distance sufficient to provide a clear view of the emissions with the sun oriented in the 140° sector to his back. Consistent with maintaining the above requirement, the observer shall, as much as possible, make his observations from a position such that his line of vision is approximately perpendicular to the plume direction and, when observing opacity of emissions from rectangular outlets (e.g., roof monitors, open baghouses, noncircular stacks), approximately perpendicular to the longer axis of the outlet. The observer's line of sight should not include more than one plume at a time when multiple stacks are involved, and in any case the observer should make his observations with his line of sight perpendicular to the longer axis of such a set of multiple stacks (e.g., stub stacks on baghouses).

Field Records. The observer shall record the name of the plant, emission location, facility type, observer's name and affiliation, and the date on the Visible Emissions Field Data Sheet. The time, estimated distance to the emission location, approximate wind direction, estimated wind speed, description of the sky condition (presence and color of clouds), and plume background are recorded on the sheet at the time opacity readings are initiated and completed.

Observations. Opacity observations shall be made at the point of greatest opacity in that portion of the plume where condensed water vapor is not present. The observer shall not look continuously at the plume but instead shall observe the plume momentarily at 15-second intervals. Unless directed to do otherwise in this permit, observe emissions for no less than 15 consecutive minutes to obtain a minimum of 60 observations.

Attached Steam Plumes. When condensed water vapor is present within the plume as it emerges from the emission outlet, opacity observations shall be made beyond the point in the plume at which condensed water vapor is no longer visible. The observer shall record the approximate distance from the emission outlet to the point in the plume at which the observations are made.

Detached Steam Plume. When water vapor in the plume condenses and becomes visible at a distinct distance from the emission outlet, the opacity of emissions should be evaluated at the emission outlet prior to the condensation of water vapor and the formation of the steam plume.

Recording Observations. Opacity observations shall be recorded to the nearest 5 percent at 15-second intervals on the Visible Emissions Observation Record contained in this section. Record the minimum number of observations required by the permit. Each momentary observation recorded shall be deemed to represent the average opacity of emissions for a 15-second period.

Data Reduction. To determine compliance with the standards set out in Condition 16 of this permit, count the number of observations that exceed the percent opacity limits and record this number on the sheet.

Visible Emissions Field Data Sheet

Certified Observer:_____

Company: _____

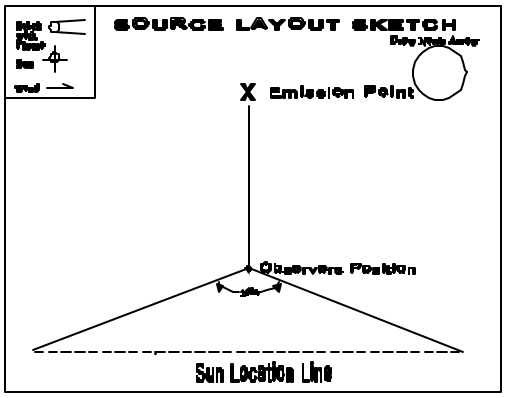
Location: _____

Test No.: _____ Date: _____

Source: _____

Production Rate, Operating Rate & Unit Operating Hours: _____

Hrs. of observation: _____



Clock Time	Initial				Final
Observer location Distance to discharge					
Direction from discharge					
Height of observer point					
Background description					
Weather conditions Wind Direction					
Wind speed					
Ambient Temperature					
Relative humidity					
Sky conditions: (clear, overcast, % clouds, etc.)					
Plume description: Color					
Distance visible					
Water droplet plume? (attached or detached?)					
Other information					

Visible Emissions Observation Record

Page ___ of ___

Company _____ Certified Observer_____

Test Number _____ Clock time_____

Date:		Visibility reduction every 15 Seconds (Opacity)				Steam Plume (check if applicable)		Comments
Hr	Min	0	15	30	45	Attached	Detached	

Additional information:

_____
Observer Signature

Data Reduction:
Duration of Observation Period (minutes) _____
Number of Observations _____
Number of Observations exceeding limits _____

Average Opacity Summary

Set Number	Time Start—End	Opacity	
		Sum	Average

Section 15. ADEC Notification Form

Fax this form to: (907) 269-7508 Telephone: (907) 269-8888

Union Oil Company of California
Company Name

King Salmon Platform
Facility Name

1. Reason for notification:

❑ Excess Emission ❑ Permit Condition Exceedence

2. Event Information (Use 24-hour clock)**:**

	START Time**:**	**END** Time:	**Duration** (hr:min):
Date: _____	_____:_____	_____:_____	_____:_____
Date: _____	_____:_____	_____:_____	_____:_____
		Total:	_____:_____

3. Cause of Event (Check all that apply)**:**

❑ START UP ❑ UPSET CONDITION ❑ CONTROL EQUIPMENT
❑ SHUT DOWN ❑ SCHEDULED MAINTENANCE ❑ OTHER _____

Attach a detailed description of what happened, including the parameters or operating conditions exceeded.

4. Sources Involved:

Identify each Emission Source involved in the event, using the same identification number and name as in the Permit. List any Control Device or Monitoring System affected by the event. Attach additional sheets as necessary.

Source ID No.	Source Name	Description	Control Device

5. Emission Limit and/or Permit Condition Exceeded:

Identify each Emission Standard and Permit Condition suspected of being exceeded during the event. Attach a list of ALL known or suspected injuries or health impacts. Attach additional sheets as necessary.

Permit Condition	Limit	Exceedence

6. Emission Reduction:

Attach a detailed description of ALL of the measures taken to minimize and/or control emissions during the event.

7. Corrective Actions:

Attach a detailed description of ALL corrective actions taken to restore the system to normal operation.

Based on information and belief formed after reasonable inquiry, I certify that the statements and information in and attached to this document are true, accurate, and complete.

Printed Name: Signature: Date:

Section 16. Permit Documentation

September 13, 1985	Letter from L. Verrelli, ADEC-CO, to B. Lamoreaux, ADEC-SCRO final PSD Determination for addition of Solar Centaur turbine to the King Salmon Platform.
February 18, 1988	Letter from ESE Alaska to B. MacClarence, ADEC-SCRO, source test data for Solar Centaur, 3950 HP turbine.
June 14, 1988	Letter from J.A. Ives, ARCO, to B. MacClarence, ADEC-SCRO, request to change H_2S limit from 25 ppm to 200 ppm.
July 25, 1988	Letter from S. Hungerford, ADEC-CO, to K. Pazera, EPA, requesting assistance in establishing a reasonable H_2S limit in the fuel gas.
August 30, 1988	Letter from M. Schultz, EPA to G. Rains, EPA, allowing testing of H_2S on a monthly basis in lieu of daily sulfur and nitrogen content testing as long as the concentration remains less than 10 times the current.
October 19, 1988	Letter from J.A. Ives, ARCO, to B. MacClarence, ADEC-SCRO, notifying of the beginning of burning of non-H_2S fuel gas.
December 14, 1988	Letter from J.A. Ives, ARCO, to B. MacClarence, ADEC-SCRO, request for permit renewal.
April 14, 1989	Letter from J.A. Ives, ARCO, to B. MacClarence, ADEC-SCRO, notifying of the replacement of unit # 018 a 4375 HP Ruston gas lift compressor with a 5200 HP Ruston.
November 28, 1989	From Gary O'Neal, EPA, to J.A. Ives, ARCO, verifying that the Ruston TB-5000, 5200 HP gas lift compressor not subject to NSPS Subpart GG.
November 6, 1990	Letter from L. Brown, ARCO, to B. MacClarence, ADEC-SCRO, notifying of the replacement of unit #019 a Saturn T1200 shipping pump turbine with a Saturn T1300.
November 13, 1990	Letter from L. Brown, ARCO, to A. Pontius, EPA notifying of the replacement of the Saturn T1200 turbine with a Saturn T1300 1360 HP turbine and the plan to source test for NO_X and SO_2.
April 4, 1991	Letter from J. Nyemcheck, ADEC-SCRO, to R. Kanady, ARCO, Inspection and Source Test Observance of the King Salmon Platform.
April 10, 1991	Letter from R. Kanady, ARCO, to J. Nyemchek, Simpified Flow Diagram, King Salmon Platform.
May 1, 1991	Letter from S. Barandt-Erichsen, ADEC-SCRO, to H.P. Foster, ARCO, Air Quality Control Permit to Operate No. 9123-AA001.

May 21, 1991	Letter from L. Brown, ARCO, to R. Nye, EPA, notification of the proposed reconstruction Solar Centaur turbine.
May 24, 1991	Letter from J.A. Ives, ARCO, to S. Brandt-Erichsen, ADEC-SCRO, comments on AQCP No. 9123-AA001.
July 8, 1991	Letter from S. Brandt-Erichsen, ADEC-SCRO, to H.P. Foster, ARCO, Amendments to AQCP 9123-AA001.
July 15, 1991	Letter from L. Brown, ARCO, to J. Nyemchek, ADEC-SCRO, correction to horsepower rating, Solar Centaur, rebuild.
March 5, 1992	Letter from W. Hopkins, AOGA, to S. Brandt-Erichsen, ADEC-SCRO, Impacts of Rising Fuel Gas H_2S Content on the Air Quality of Cook Inlet.
March 18, 1992	Letter from A. Pontious, EPA to L. Brown, ARCO, NSPS 40 CFR Part 60 Subpart GG response to request from ARCO for custom fuel monitoring schedule.
August 17, 1992	Letter from J. Gross, ARCO, to B. MacClarence, ADEC-SCRO, Solar Saturn T1300 Turbine.
November 23, 1992	Letter from J. Ives, ARCO, to S. Brandt-Erichsen, ADEC-SCRO, transfer of King Salmon Platform AQCP 9123-AA001 to UNOCAL.
	UNOCAL OWNERSHIP
July 23, 1993	Letter from F. Sullivan, UNOCAL, to J. Nyemcheck, ADEC-SCRO, replacement of Nordberg 6000 Hp turbine with a Solar Centaur 3830 Hp turbine (in service date – 2/27/81).
November 2, 1993	Letter from J. Adair ADEC-SCRO, to J. Beitia, UNOCAL, Amendments to AQCP 9123-AA001.
March 25, 1994	Letter from M. Morrell, UNOCAL, to B. MacClarence ADEC-SCRO, request for renewal AQCP 9123-AA001.
November 2, 1994	Letter from F. Sullivan, UNOCAL, to S. Bailey, ADEC-SCRO, request for hours limitations and additions to emission source inventory.
October 1997	Application for an Air Quality Control Operating Permit from Unocal.
April 25, 2001	Construction Permit Application for the Solar Centaur 40-T4700S Gas-Fired Turbine Installation and Increased H_2S Concentration of Fuel Gas Project, from Unocal.

May 22, 2001	Letter from Martin T. Morell to Jim Baumgartner, Coastal Project Questionnaire and Certification for the King Salmon Platform Construction Permit Application.
June 20, 2001	Letter from Martin T. Morell to Kai Hon Shun of EPA, Notification of Commenced Construction NSPS Subpart GG-Affected Combustion Turbine.
July 11, 2001	Letter from Martin T. Morell to Jim Baumgartner, amendment to Unocal's Air Quality Control Construction Permit Application for the King Salmon Platform, and revised air quality modeling requested by the department.
September 4, 2001	Letter from Martin T. Morell of Unocal to Jim Baumgartner providing comments regarding the preliminary permit decision.
October 3, 2001	Letter from Douglas Hardesty EPA Region X to Janet Bounds approving the custom fuel monitoring schedule
October 15, 2001	Electronic mail from Janet Bounds Unocal to Jim Baumgartner requesting installation of two diesel-fired drill rig heaters.